

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Customer Number: 20277
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Hidenori KATSUMURA, et al.	:	Confirmation Number: 8158
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Application No.: 10/591,255	:	Group Art Unit: 2832
	:	
Filed: August 31, 2006	:	Examiner: BAISA, JOSELITO SASIS
	:	
For: COMPONENT WITH COUNTERMEASURE TO STATIC ELECTRICITY	:	

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Kazuyuki Nishimoto, do hereby declare:

- 1) I am one of the inventors of U.S. Patent No. 3,725,836 to Wada et al. (hereinafter "Wada").
- 2) I graduated from Doshisha University in March, 1956 with a Bachelor's degree in chemical engineering.
- 3) I was employed with Matsushita Electric Industrial Co., Ltd. ("Matsushita") from 1959 to 1993 as a senior engineer. During my employment with Matsushita, I developed materials for electronic devices, such as ceramic materials.
- 4) I have carefully reviewed the June 30, 2010 Office Action ("the Office Action") for US Patent Application No. 10/591,255 ("the '255 application"). Independent claims 1-12 of the '255 application have been rejected in the Office Action as being obvious over JP 63-316405 to Nakamura ("Nakamura") in view of Wada.
- 5) In the rejection of claim 1, the Examiner admits on page 2 of the Office Action that Nakamura does not disclose the feature that "the varistor layer comprises a material

including at least bismuth oxide, the bismuth oxide is diffused to the board by sintering the varistor layer and the board, and a bismuth oxide diffusing layer is provided at the board”.

6) On pages 2 and 5 of the Office Action, the Examiner refers to column 3, lines 20-52 of Wada to provide the basis for support and rationale of the above-mentioned features of claim 1. The Examiner states on page 5, fourth paragraph of the office action that “Wada teaches a varistor paste applied to an insulating base (board), fired in an electrical furnace to bond the zinc oxide powder (with Bismuth oxide as mentioned in line 46 of column 3) to adhere firmly to the insulating base. Therefore, firing the varistor paste with the insulating base is sintering. Through this process bismuth is diffused to the board”.

7) Wada does not disclose or suggest that the Bismuth oxide is diffused to the board. In order for Bismuth oxide to diffuse to the board, the Bismuth oxide must move freely in the varistor layer. Wada, however, does not allow Bismuth oxide to move freely in the varistor layer, so that Bismuth oxide cannot diffuse to the insulating base for the reasons set forth below.

8) Wada states how to prepare the zinc oxide powder which is to be contained in the varistor layer in column 3, lines 42-52. This passage states “the n is improved when said zinc oxide powder has incorporated therewith 0.1 to 8 mole percent of one member selected from the group consisting of bismuth oxide (Bi_2O_3) ...”. This passage further states that “A mixture of zinc oxide powder and additives of a given composition is heated at a high temperature of 1100° to 1500°C and then crushed into fine powder in a manner similar to that described above”.

9) It is known to those skilled in the art that the purpose of the heating of the powder at a temperature of 1100° to 1500°C is to bond the additive, such as Bi_2O_3 , firmly to the particles of the zinc oxide powder by sintering, and in order to couple the particles of zinc oxide to each other via the additive. This process improves the n value.

10) After the heating and crushing of the mixture to provide the zinc oxide powder to be mixed with the glass frit and the liquid vehicle to prepare the varistor paste, the varistor paste is applied onto the insulating base and fired at the temperature of 400° to 850°C to have zinc oxide particles firmly adhere to the insulating base (column 3, lines 21-28). However, as stated above, before the firing process, the Bi_2O_3 has already been firmly bonded to the zinc oxide powder by the heating at the high temperature of 1100° to 1500°C and is not removed from the zinc oxide powder during firing at a temperature of 400° to 850°C.

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11) As such, the bismuth oxide is not separable from zinc oxide powder. Therefore, in Wada, bismuth oxide does not diffuse to the insulating base to form a separate bismuth oxide layer.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signature: Kazuyuki Nishimoto Date: Sep. 24, 2010
Kazuyuki Nishimoto